

MINUTES

PLANNING COMMITTEE

March 20, 2013

A meeting of the Planning Committee of the Council of the County of Kaua'i, State of Hawai'i, was called to order by Councilmember Nadine K. Nakamura, Chair, at the Council Chambers, 4396 Rice Street, Suite 201, Lihue, Kaua'i, on Wednesday, March 20, 2013, at 10:24 a.m., after which the following members answered the call of the roll:

Honorable Tim Bynum
Honorable Ross Kagawa
Honorable Mel Rapozo
Honorable JoAnn A. Yukimura
Honorable Nadine K. Nakamura
Honorable Gary L. Hooser, Ex-Officio Member
Honorable Jay Furfaro, Ex-Officio Member

Minutes of the February 20, 2013 Planning Committee Meeting.

Upon motion duly made by Councilmember Kagawa, seconded by Councilmember Rapozo, and unanimously carried, Minutes of the February 20, 2013 Planning Committee was approved.

Minutes of the March 6, 2013 Planning Committee Meeting.

Upon motion duly made by Councilmember Kagawa, seconded by Councilmember Rapozo, and unanimously carried, Minutes of the March 6, 2013 Planning Committee was approved.

The Committee proceeded on its agenda item as follows:

Bill No. 2461 A BILL FOR AN ORDINANCE TO AMEND CHAPTER 8, KAUAI COUNTY CODE 1987, AS AMENDED, RELATING TO THE COMPREHENSIVE ZONING ORDINANCE
(Amendments to the Shoreline Setback Ordinance)

Chair Nakamura: I would like to move Bill No. 2461 to 2:00 p.m. today. Chip Fletcher from the University of Hawai'i has a class this morning and wanted to accommodate his schedule this afternoon. Can we just move on to the next item, please?

There being no objections, Bill No. 2465 was taken out of order.

Bill No. 2465 A BILL FOR AN ORDINANCE TO AMEND CHAPTER 9, KAUAI COUNTY CODE 1987, AS AMENDED, TO ALLOW FOR MULTI-MODAL TRANSPORTATION PRINCIPLES FOR SUBDIVISIONS [This item was deferred.]

Chair Nakamura: I would like to just state that the Planning Department has asked for a deferral of this today. Both Mike A. Dahilig, Director of Planning, Marie Williams, Long Range Planner are on O'ahu today and cannot be

here to discuss this. So, I would like to see if there is any public testimony and then ask for a deferral.

There being no one to provide public testimony, the meeting was called back to order, and proceeded as follows:

Mr. Kagawa moved to defer Bill No. 2465, seconded by Ms. Yukimura, and unanimously carried.

There being no objections, the Committee recessed at 10:26 a.m.

There being no objections, the meeting was called back to order at 2:31 p.m., and proceeded as follows:

Chair Nakamura: I would like to thank Councilmember Rapozo for allowing the Planning Committee Meeting to continue on. We have representative from the Planning Department, Mike Dahilig here and we also have Chip Fletcher from the University of Hawai'i. I think we have a presentation for the Committee. Maybe we should read the...the Planning Committee is called back to order. Can you read the item on the agenda?

Bill No. 2461 A BILL FOR AN ORDINANCE TO AMEND CHAPTER 8, KAUAI COUNTY CODE 1987, AS AMENDED, RELATING TO THE COMPREHENSIVE ZONING ORDINANCE (*Amendments to the Shoreline Setback Ordinance*) [This item was deferred to June 5, 2013 Committee Meeting.]

There being no objections, the rules were suspended.

MICHAEL A. DAHILIG, Director of Planning: Councilmembers, good afternoon. This afternoon we have Dr. Chip Fletcher who has flown in to discuss with the Council, per the Committee Chair's request that this is meant to explain how the 2010 Shoreline Erosion Study that is pretty much the major hallmark in the proposed legislation was actually conducted and actually derived. Dr. Fletcher has been gracious enough to come down. He is a very busy guy. He is actually now the Associate Dean of the School of Ocean Air Science and Technology. So, along with all dealing with all of his other teachings and research responsibilities. I know time is short so I do not want to belabor the point. So, here is Dr. Fletcher.

DR. CHIP. FLETCHER: Thank you, Mike. Thank you, Councilmembers. I apologize that I have such a short visit with you. I do have a short PowerPoint presentation. My research group at the University has had contracts with City and County of Honolulu, with the County of Maui, and the County of Kaua'i to produce shoreline change information. We have completed all three (3) of those studies. As you know, on Kaua'i as well as the other islands in Hawai'i, nationwide and worldwide coastal erosion is a major problem. In Hawai'i, we had a number of studies over the last several decades attempting to define the nature of coastal erosion. There was a study by Dennis Hwang in 1981, a study by Sea Engineering in 1988, and an update by Sea Engineering in 1991, all performed for the Coastal Zone Management Program, to look at historical shoreline change. "How has the shoreline changed over the course of several decades?" These studies would give one (1) or two (2) data points per beach. With improvements in geospatial data we have been able to update these studies and provide information on how the shoreline is changing every

sixty-five (65) feet along the shoreline or every twenty (20) meters. As you know there are several drivers of shoreline change in Hawai'i. We have waves that approach different directions at different seasons. We have human impacts to shorelines. We have long term sea level rise in Hawai'i which affects the stability of shorelines. All of these affect the availability of sand to a shoreline. So, ultimately a shoreline erodes or accretes because of sand availability.

The way we map historical shorelines is to take an aerial photograph like this one (1) and identify on it what is called the "toe" of the beach. It is basically the low watermark at low tide. We use this for modern air photographs as well as historical aerial photographs. We had certain criteria for accepting historical aerial photographs from mapping and we needed to have a minimum ground resolution of less than a meter. The historical air photographs had to be...they had to have the ability to orthorectified or corrected in three (3) dimensions to remove the distortion from the air photograph. We also used a set of maps called "T sheet" or topographic sheets that were used in the early part of the twentieth century and the late part of the nineteenth century by surveyors who came out to identify the shoreline for the purpose of making navigation maps. We used shorelines from this. We basically take all the different shorelines and account for various uncertainties, put them on a modern air photograph, and develop maps for your use. So, here you see at this location, we have a shoreline as early as 1928, 1932 and then roughly every decade up to the present time. The most recent shoreline being in 2006, in this case. Every twenty (20) meters along the shoreline we measure how has it changed? What is the long term rate of change? We also account for a number of uncertainties and we have an overall uncertainty or error that we apply to this statistic. At a single transect which can be tied to a Tax Key Map (TMK), we will know the change in shoreline position over time. So, here on this (x), (y) plot you see a shoreline as early as 1930 and a long-term trend that using what is known as linear regression, we can fit a line, a best fit line, to this that will tell us a rate and an uncertainty or an error. In this case we have point four (0.4) plus or minus point one (0.1) meters per year at the ninety fifth (95th) confidence interval.

The deliverable of your contract and other contracts were to provide a net long term rate in feet per year for the transects. For Kaua'i, I believe, there are over four thousand five hundred (4,500) transects, four thousand five hundred (4,500) locations on every stretch of sandy beach that we could find except for off of the Na Pali coast. At each transect a scatter plot of the shoreline positions and the best fit line. The reason for this is so that planners could look at the history of the shoreline in terms of how variable it is as recorded by the data that we collected. You can see there are big gaps in data. In many cases, we have several decades where we have no information. Also you are looking at five (5) to ten (10) year variability. You are not looking at seasonal variability. Some of these photographs were taken in June or July, some were taken in December. They were taken at various times year. We have no control over when old air photographs were taken.

This was not a study of why are the beaches changing? It was not a study of short-term variability on the order of seasons. It was not a study of management options. It was designed to answer that first question of where is there chronic erosion. Where are the places where we have a chronic problem? There is a report that brings the data for all three (3) islands, Maui, O'ahu, and Kaua'i. It is an open file report published by the U.S. Geological Survey just last year. This is an example of the maps that your Planning Department has online as well as in an atlas that was provided to them. That is the end of my presentation. I will be happy to take any questions.

Chair Nakamura: Are there any questions for Dr. Fletcher or Mike Dahilig? Councilmember Bynum.

Mr. Bynum: Dr. Fletcher, pleasure to see you again.

Dr. Fletcher: Thank you, pleasure to see you as well.

Mr. Bynum: When we first kind of adopted this it was on an interim basis and now we are trying to make it a permanent. So, when was the study actually completed?

Dr. Fletcher: I believe it was completed in 2010.

Mr. Bynum: So, we actually started using it on an interim basis on Kaua'i before that, right, Mike?

Mr. Dahilig: That is correct Councilmember.

Mr. Bynum: And one (1) of the key reasons for this Bill is now that the study is complete, it is to codify it into an Ordinance. Is that correct?

Mr. Dahilig: That is correct.

Mr. Bynum: I just want to take the opportunity to thank you for educating me a lot and how pleased I am with Sea Grant folks that we have here on Kaua'i and that program working collaboratively with us has been a great improvement for us. Thank you.

Mr. Dahilig: Thank you, Councilmember.

Chair Nakamura: I will ask a few questions. One (1) of the studies covered the sandy shoreline.

Dr. Fletcher: That is correct, sandy only.

Chair Nakamura: So, not the rocky coastlines.

Dr. Fletcher: That is correct.

Chair Nakamura: I think that is one (1) of the questions that came up in our review of the Bill was the setbacks from rocky coastlines. Did you have any comments about...or observations or recommendations?

Dr. Fletcher: One (1) of the methods that we used to correct aerial photographs for distortion they have is to find rocky features that are present in aerial photographs through the century time series. So, we actually use certain rocky features under the assumption that they had not changed. But there are other areas where rocky features have been submerged by rise in sea level. If you have a rocky shoreline but it is a small rock, you might actually have erosion there. Generally speaking though it is the sandy shoreline that is much more dynamic than the rocky shoreline.

Chair Nakamura: And for us to...that would be a separate study in order to look at what is happening geologically to those areas? Because we are looking at setbacks, you know, from...

Dr. Fletcher: I think that the question of whether or not a rocky shoreline is stable could probably, with Sea Grant's agreement, be something that we could put together for you not as a separate study, but as a separate assessment. Just with the data we have, we basically have in hand the information that would just need to be looked at by Ruby and myself. I do not think it would be necessarily a big deal.

Chair Nakamura: Okay. Maybe we can follow-up on that, Mike.

Dr. Fletcher: Yes, follow-up on that with Sea Grant, with Ruby.

Chair Nakamura: Thank you. Also the impact of episodic occurrences. Wailua Beach was the example that we have had a lot of discussion about around this table. Any thoughts about how to explain that with respect to the data that you have collected?

Dr. Fletcher: Well, shorelines do respond seasonally. They can be stable for a long time and then all of a sudden something happens. We do not know what. But they will erode. In some cases the erosion is permanent and what was not previously a chronically eroding shoreline now becomes a chronically eroding shoreline or that episodic erosion may recover. The last two (2) or three (3) years we have seen a number of beaches around the State that have experienced some dramatic erosion. Overall, we have seventy percent (70%) of the beaches in Hawai'i that are chronically eroding. On Kaua'I, the same number applies. Seventy percent (70%) of your beaches are chronically eroding. At Wailua it is a shoreline that sits at the downstream end of a sand delivery system. The trades basically create a set of currents that deliver sand from the north towards the south. Some of that sand makes it across the river mouth into the shoreline of the south. Some of it does not. What leads to high variability at Wailua Beach, I do not know. We were just there before arriving here, it looks like the beach has recovered somewhat. But it is still narrower than I recall.

Chair Nakamura: Historic...your study shows it to be an accreting beach.

Dr. Fletcher: An accreting beach historically, but also highly variable.

Chair Nakamura: Okay.

Dr. Fletcher: The Sea Grant agents, as part of the Sea Grant network, got together I think it was last week or the week before and has a little workshop discussing how do we deal with this high variability in the shorelines and how could the uncertainty in our data be applied to setback? That was just a brainstorming meeting. We did not come up with any conclusions, but there were discussions about how to deal with this issues of high variability. I am not aware of any jurisdiction in the United States that has solved this problem or addressed this problem with highly variable shorelines with regard to the setback.

Chair Nakamura: So, one (1) last question has to do with that this Bill, as Councilmember Bynum said, is really to incorporate your study so we can use the best science available as we look at our shoreline setbacks. But I wanted to find out what kind of research are you doing now with respect to sea level rise that we would also need to take into account at some point?

Dr. Fletcher: We use highly detailed topography taken by Light-R, which is a laser that is shot out of an airplane or helicopter. (FEMA) Federal Emergency Management Agency, U.S. Army Corp, U.S. (GS)-Geological Surveying, and other Federal Agencies have collected Light-R data for Kaua'i. We take this data and we make a digital elevation model or a map out of it. Then we can essentially raise sea level on it and color the pixels in that would fall below high tide if you added a foot of sea level rise to it or two (2) feet or three (3) feet or four (4) feet. We have just completed doing that for the island of Kaua'i. We have done it for Saipan and Guam and we are working our way down the island chain, and Kaua'i was the first island that we completed this for. Our data will be sent to National Oceanic and Atmospheric Administration (NOAA). It will be put on what is known as the NOAA Sea Level Viewer. This is a website where you can bring up an air photograph of an area that you are interested in, and you can literally slide at one (1) foot increments, on the website and watch areas turn blue meaning that they lay below high tide. That does not take into account wave over wash, tsunami, and hurricane storm surge, any of the other things that make the ocean surface about high tide. High tide is assumed to be a very flat ocean surface. But you know our ocean actually sits above that at high tide because of waves and currents and winds. So, this is a best case scenario of where you are vulnerable to sea level rise of a couple of feet. The current science indicates that globally we are looking at a mean sea level rise of around one (1) foot by mid-century and anywhere from two (2) feet to six (6) feet by the end of the century. The uncertainty is due to uncertainty with regard to the ice sheets and how fast the air is going to warm and therefore warm the ocean. But these maps are our first step in identifying highly vulnerable areas.

Chair Nakamura: You are saying it is accessible right now?

Dr. Fletcher: Not right this minute but within a few weeks. We are working with Ruby to get these maps available to you.

Chair Nakamura: Perfect. Thank you very much.

Dr. Fletcher: One (1) last thing. As sea level rises, the water table under the coastal zone rises. Around Honolulu at least, at two (2) feet of sea level rise seventy percent (70%) of Honolulu will be inundated by ground water coming up, not by the ocean coming over the beaches. But the ground water table coming up basically making wetlands which is what a wetland is. It is when the water table rises.

Chair Nakamura: Councilmember Kagawa.

Mr. Kagawa: Hi, Chip. I do not know how familiar you are with the actual beach areas of Kaua'i in doing this study. But I have two (2) that come to mind. I just want to ask your opinion if you think it is going to get better or worse? The beach erosion at Wailua Beach is one (1) of them and the second one (1) is the lack of beach that used to be a forty (40), fifty (50) yard beach by the, Kekaha Neighborhood Center, across from the Neighborhood Center where there are waves

busting on the rocks. So, are those going to get better or worse in your estimate of the next five (5) years?

Dr. Fletcher:
going to get better.

I cannot think of a beach anywhere that is

Mr. Kagawa:

It is all going to get worse probably?

Dr. Fletcher: Sea level has been rising for a century. It is rising now. It is likely to accelerate, it is extremely strongly likely to accelerate and I think we are looking at a huge increase in the location of eroding shorelines and the magnitude of the erosion taking place.

Mr. Kagawa: Well, I guess, why I ask that question is I have heard it before from the Corps of Engineers that they said when we get that large north swell that a lot of the sand will come back. We had a couple big swells. I do not know if it was huge swells but we had some this winter and it did not seem to have come back visibly at least.

Dr. Fletcher: So, I should clarify the timeframe that my opinion is couched in. My timeframe is a long-term timeframe of decades. Between now and when the beaches really start falling apart due to sea level rise, you will see sand come and go, come and go, beaches will get wider, they will get narrower. We have to not let temporary change in the shoreline be confused for what is a chronic change in the shoreline. We do not always know the difference.

Mr. Kagawa:

Thank you, Chair.

Chair Nakamura:

Councilmember Rapozo.

Mr. Rapozo: Thank you, Chairman. Thank you for being here. Do we have an inventory of the high variability shorelines on Kaua'i?

Dr. Fletcher:

Not as a separate item, no.

Mr. Rapozo:
of them?

Okay. But you remember or recall how many

Dr. Fletcher: They were not parched out as a deliverable of as something that we can special track. It could be...that could be put together.

Mr. Rapozo: Okay. I think that would be helpful. On these high variability shorelines, as far as the Bill is concerned when we move forward, should those be addressed separately as far as...I mean I look at it with common sense that why would you build a structure on a beach that has a high variability shoreline?

Dr. Fletcher: That is a interesting idea and I do not have an opinion one (1) way or the other. But I think it is worth looking into what sort of management regime you would have on a shoreline like that versus another type of shoreline. But also a shoreline that is today not necessarily highly variable may become highly variable in the future.

Mr. Rapozo: Right. But I think the trend has already defined that beach unless something substantial changes.

Dr. Fletcher: Yes, I do not think we are going to see highly variable shorelines become less variable...

Mr. Rapozo: Right, that I think is my point.

Dr. Fletcher: ...until they disappear altogether.

Mr. Rapozo: Right. It is like you know, you cannot be half pregnant. You are either pregnant or you are not. You cannot be half pregnant. So, I think once a beach becomes highly variable or the shoreline, then I just believe it should be treated separately because obviously the possibility of heavy erosion is present. So, I think they should be treated differently. One (1) of the concerns on the Bill is the wavering of certain projects, the County projects or whatever government projects. So, basically the County or State government could put up projects on a highly or high variability shoreline without having any...

Dr. Fletcher: Net long term change.

Mr. Rapozo: Yes. So, I think that is a concern.

Dr. Fletcher: Yes. There has been, for a long time, national discussion about the various jurisdictions use of setback nationwide and how in general, the setback laws as they are developed do not take into account high variability. They take into account long-term chronic change. But a temporary erosion of a shoreline very often historically has triggered a sea wall construction. Even if that beach comes back in front of that sea wall, the fact that you have blockaded some of the sand with that seawall means that you have already begun to...the human impact of sand availability.

Mr. Rapozo: Thank you.

Chair Nakamura: Councilmember Yukimura.

Ms. Yukimura: When you talked about seventy percent (70%) of the shoreline is chronically eroding on Kaua'i, is that seventy percent (70%) of a total that minuses Na Pali?

Dr. Fletcher: Yes.

Ms. Yukimura: So, it is seventy percent (70%) of the sandy shoreline.

Dr Fletcher: The sandy beach that we studied. The seventy percent (70%) of the four thousand five hundred (4,500) transects basically.

Ms. Yukimura: Okay. When you talked about the rocky shoreline, what is it that you said you could do for us?

Dr. Fletcher: Well, I would not be difficult to go through the aerial photographs, identify where you have rocky shoreline, and perhaps assess whether it is bedrock versus single beach.

Ms. Yukimura: I see.

Dr. Fletcher: There are places where sand has disappeared and we have revealed a rocky shoreline. So, we know that at least it had been experiencing erosion when it was a sandy beach. I just think that there might be some information that could be acquired by looking at our data with a different set of eye glasses for a different question.

Ms. Yukimura: I know that when we were first working on the law that is presently in place, our first real effort at shoreline setbacks beyond the, I guess twenty (20) foot medium minimum that was in the State law. We were conferring with Maui a lot because they had done the law...put the law in place first. They were saying that it is often justified to do quite a substantial setback from even a rocky coastline especially if they were cliffs because sometimes there is the collapse of that...

Dr. Fletcher: Cliffs can get undercut and the undercut can go quite a ways and you could end up developing a lip of rock with air underneath.

Ms. Yukimura: Right. In looking at the proposed amendments to the existing law, is it something that we should consider in terms of if it is a rocky cliff versus if it is a sea level rock formation? Should those be treated differently?

Dr. Fletcher: Well, it depends on how finely you want to slice the coastline up. There are potentially several categories of rocky shoreline and maybe it is for that reason that jurisdictions decide on sort of a one (1) size fits all. What is the setback? Let us take into account all of the things that might be threatened by coastal erosion in our setback; variability, undercutting of rocky shorelines, and maximum erosion rates versus average erosion rates. I mean there are various ways you can slice this up and it gets to the question of what is your motivation, public health and safety or environmental conservation, all of the above? Those are all parts of the discussion, I think.

Ms. Yukimura: I guess, you know, the first threshold is public safety and so I guess I am looking for a rule of thumb or some kind of criteria that we could use for that purpose. I know that for aesthetics or otherwise, they...there is actually some real purpose there. But that might be more zoning than setback.

Dr. Fletcher: Then you run into the question of do you make a lot on buildable by having a very wide setback? On Maui what they have done is they have allowed for a minimum buildable footprint.

Ms. Yukimura: Right and we have that in our law too.

Dr. Fletcher: I believe you do.

Ms. Yukimura: Actually, but I am talking about...I am thinking about cliffs and in many cases there are on lodged lots. They tend to be on agriculture subdivisions and so do you have any suggestions about how we might handle those?

Dr. Fletcher: No, I do not have a suggestion for how you might handle it. But it is true that you have high relief sloping shorelines at the base

of which is a beach. The beach is what our data applies to. But cliff failure, debris slides, mud slides those sorts of hazards, our data does not speak to those. You actually find out that there is no perfect edge to many cliffs. It is just this continuously rounding slope. So, what would you use as a baseline from which to measure a setback, say from the edge of a cliff? Hawai'i...the Hamakua Coast on the Big Island wrestles with this constantly and when these hillsides give way they are actually achieving more stability once they give way. But the way that you map a hazardous hillside is one (1) that has had a lot of failures. But that is actually a step towards making it more stable. So, how do you factor that in? Nobody has come up with an answer to this...to some of these questions.

Ms. Yukimura: Okay.

Dr. Fletcher: So, I think you are in an entirely different area of geological hazard here than beach erosion.

Ms. Yukimura: Right. I guess the cliffs that I am visualizing are cliffs that are not sloping. They are kind of straight up and down where the waves are washing against them.

Dr. Fletcher: Right, so there is another shade of the data.

Ms. Yukimura: Okay. Alright. Thank you.

Chair Nakamura: Just to follow-up, I think that is a really good point that you bring up. That it is a different study altogether and that if we are trying to cram that into this shoreline setback Bill, then we are really mixing apples and oranges.

Dr. Fletcher: Yes, I agree with that.

Chair Nakamura: So, maybe rather than try to resolve all of the issues in this one (1) shoreline setback Bill that we treat that as a separate issue once we have better data rather than to penalize those landowners to have to do separate geological studies when they come in. Do you have any comments on that?

Mr. Dahilig: Yes. It is something that I think is part of our staff's ongoing discussions with the Comprehensive Zoning Ordinance (CZO) update, Phase II. We do have, within our Zoning Code, a constraint district that addresses slopes. That may be something with respect to updating our constraint district for slope failure areas and the mapping exercise that could consume from that could be something we could take a look at.

Chair Nakamura: That would be a good way to handle it. Thank you. Chip?

Dr. Fletcher: Point of comment. The State of California requires their bluff property owners to do a...hire a consultant and do a geotechnical investigation for every permit.

Chair Nakamura: I think that was one (1) of the recommendations that was discussed and so that is an option also.

Dr. Fletcher: Yes.

Chair Nakamura: Any further questions, or comments? Thank you very much for coming here. I know that you had to teach this morning and that you have a crazy schedule. I think this was a good discussion and lays the framework for the shoreline setback Bill that we are working on and updating. The discussion on sea level rise is so important in public policy making and I hope that we can devise some forum at some point when that data is available to further discuss what the implications are on how we plan on Kaua'i.

Dr. Fletcher: I would be more than happy to come back and I could give you a presentation on the maps that we have made for you and just bring you up to speed on the science of sea level rise. I am happy to come back at any time.

Chair Nakamura: That would be great. Councilmember Bynum.

Mr. Bynum: That would be great and may I do one (1) follow-up question?

Chair Nakamura: Sure.

Mr. Bynum: I have been engaged in this discussion for a long time and I believe that currently our Bill as it is currently written is probably the most progressive in the Country is what you used to say.

Dr. Fletcher: I still do.

Mr. Bynum: I think it still is. So even though we have not factored in sea level rise, our current Bill requires setbacks greater than virtually anywhere else in the Country. Is that correct?

Dr. Fletcher: That is correct. The current Bill, I believe, does factor in sea level rise in the sense that there is an additional twenty (20) feet that is put on the lot depth calculation and that was the intention of that.

Chair Nakamura: Councilmember Yukimura.

Dr. Fletcher: I hope I am not confusing things. But I...that is my understanding.

Ms. Yukimura: Actually, it was more for episodic events...

Dr. Fletcher: Oh, okay.

Ms. Yukimura: ...as I recall. But either way it works. I mean it is just an extra buffer.

Dr. Fletcher: Right.

Ms. Yukimura: Although if we continue as we do in terms of the carbon loading that we are doing in our atmosphere, it could very well not be enough.

Dr. Fletcher: Well, that is the crazy thing about the ground water phenomenon of sea level rise is that it can happen behind your house.

Ms. Yukimura: Yes, yes.

Chair Nakamura: Then if that is the case, if you are open to that I would like to follow-up with that.

Dr. Fletcher: Yes.

Chair Nakamura: When we do our briefing also invite Planning Department and any other of the County agencies as well as let the public know that this discussion is going to take place because I think a lot of people including the State Department of Transportation may want to also attend that.

Mr. Dahilig: Yes, we will work with Dr. Fletcher because I think it is also something pertinent for our Planning Commission to kind of get up to speed on because from a policy standpoint they also need to understand this.

Chair Nakamura: Thank you, Mike and thank you Dr. Fletcher. If there are no further questions for the two (2) of you, I will open it up to public testimony.

TEK NICKERSON: Thank you. I am an Environmental Land Use Planner. I was not aware that you were going to be speaking about this today but it happens to be one (1) of my favorite subjects. As an Environmental Land Use Planner the first thing we do is we identify land which should be protected from man and land that should be protected for man. Land that should be protected for man for instance would be a beach, because it can have intensive recreation and it is renewed twice a day. Protected from man would be primary dunes, secondary dunes, back bays, and from what I have observed a lot of Kaua'i is already built up on the primary dune. Destroy the back bay. Destroy the wetlands. Well, we just heard Dr. Fletcher say that in one hundred (100) we are likely to reclaim that with six (6) more feet of just the high tide not to mention the ground water which is going to be coming in from behind. There goes Coco Palms. Let us just remember that. Of course there goes the Bike Path at Coco Palms which just reminds us that this is what we have been telling you folks all along, do not build it there. But there it is. The reason I stepped in here is because I am aware that the new tsunami setback red line has been drawn and I am aware that the use for data, the historical extent that a tsunami had occurred on this area. But I am also aware that they did not take into account what the oceanographers determined from the Indonesian tsunami. The Indonesian...the oceanographers got on the ocean floor within three (3) months of the Indonesian tsunami and observed that the ocean floor had risen between fourteen (14) and forty (40) feet creating a bulge. Matachi is destroyed fifteen (15) minutes later and Sri Lanka picks it up five (5) hours later. This happens again and again and again. They ask where this could happen again? They found that the Cascadian subduction fault which is a twin of subduction fault to what Indonesian tsunami subduction fault had, that twin subduction fault in the Cascadian fault lays between northern California and Vancouver. They asked, well how often does this trigger? They looked at the data and they found that the latest was in January 1701. They went to the Native American verbal audio history and the Native Americans says, "Oh, yes. Well, this has occurred five (5) times in our history." That goes back one thousand five hundred (1,500) years. Then they said ok if we are going to experience a tsunami coming at us from the Cascadian subduction fault towards...

Chair Nakamura: That was your first three (3) minutes. You have another three (3) minutes.

Mr. Nickerson: Towards Hawai'i. How much time do we have? Five (5) hours. How will it express itself? Between sixty (60) and four hundred (400) feet high traveling at five hundred miles per hour (500 mph). Now we all know that this is going to be a reflection of what is happening below. We also know that the tsunami incursion has not occurred...been drawn on Hawai'i. I am suggesting that Dr. Fletcher take a look at that and see how that would affect the State of Hawai'i. Thank you.

Chair Nakamura: Thank you very much. Would anyone else like to testify from the public?

There being no further testimony, the meeting was called back to order, and proceeded as follows:

Chair Nakamura: Is there any discussion and I am looking at some point for a deferral until June 5th. We want to...just for Committee members, the purpose of the June 5th is to address this after the budget process because of the complexity of this issue. Thank you. Councilmember Yukimura.

Ms. Yukimura: Yes, I just want to say with respect to sea level rise that we focus a lot on how we can avoid the impacts of sea level rise. I guess I hope that we will continue also to look at actions to prevent drastic sea level rise which includes getting off of fossil fuels and includes changing our modes of transportation to a multi-modal system. Those are all related to sea level rise and even though we are a small community, if everybody just says oh, our part is not going to make a difference then we definitely will see the problems that are being predicted whereas if we all do our part and start to model a society that is sustainable, you can hope that it will spread around the world so that we do not have to deal with these very drastic and expensive impacts that will also cause human suffering.

Chair Nakamura: Thank you. Councilmember Bynum.

Mr. Bynum: I am very proud of the County of Kaua'i for this shoreline setback Bill. When we did the Bill to begin with it was a very education and inspiring, actually effort. It also lead to us getting Sea Grant people here on an ongoing basis which has been really positive. The Bill has been in use for a while and there are some amendments to kind of deal with practical, maybe unintended consequences. I do not want to do, personally, anything that that weakens our very progressive Bill. I trust that that will happen because we have Ruby Pap, Dolan Eversole, Chip Fletcher, Dennis Hwang, Caren Diamond, and Barbara Robeson who is going to make us watch really closely everything. So, I thought, boy I am going to dive deep into this. But I have seen several meetings happening with all...here at the Council with all of the players sitting around the table, all sides of the spectrum. So, I have not dove that deep into it because I know that our Planning Chair and JoAnn have been working on that. But I am confident that we are going to get through this process with an even stronger Bill and that any concerns people have that it might be manipulated in a way that takes away the protection. That everyone sitting at this table wants to make sure that does not happen. So, I think it is a Bill we will...they confirmed for me, we still have the most progressive set line legislation in the Country and I hope we stay in that category. Thank you.

Chair Nakamura: Councilmember Yukimura.

Ms. Yukimura: I just want to, I guess, piggyback on what Councilmember Bynum says. I want to acknowledge Ruby Pap who from Sea Grant has been around the table and Caren Diamond who was the instigator of the first law and who made the request to us that we start working on the law. I also want to acknowledge the Chair of the Planning Committee who has been taking these new amendments or the updating of the Bill very seriously and working on a very complex piece of law to make it better. Thank you.

Chair Nakamura: I would like to entertain a motion to defer it to June 5th.

Upon motion duly made by Mr. Kagawa, seconded by Ms. Yukimura, and unanimously carried, Bill No. 2461 was deferred to June 5, 2013.

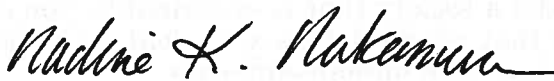
There being no further business, the meeting was adjourned at 3:12 p.m.

Respectfully submitted,



Allison S. Arakaki
Council Services Assistant I

APPROVED at the Committee Meeting held on April 3, 2013:



NADINE K. NAKAMURA
CHAIR, PLANNING COMMITTEE
